

WHAT IS CLAIMED IS:

1. A method for providing authentication in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication over a network, the method executing in a second processor, the method comprising

creating an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session; and

sending the first portion of transmission control protocol data to the first processor.

2. The method of claim 1, wherein the transmission control protocol includes standard TCP.

3. The method of claim 2, wherein the first portion of transmission control protocol data includes a request to establish a standard TCP connection.

4. The method of claim 3 wherein the first portion of transmission protocol data includes a segment used in a three-way handshake.

5. The method of claim 2, wherein the authentication session request includes setting a value in a TCP segment header.

6. The method of claim 5, wherein a first value is set for data from the second processor to the first processor, and where a second value is set for data from the first processor to the second processor.

7. The method of claim 2, wherein the authentication session request includes creating a TCP option.

8. The method of claim 7, wherein the option includes an octet.
9. The method of claim 1, wherein the authentication session includes an Extensible Authentication Protocol (EAP) session.
10. The method of claim 1, further comprising
receiving a response from the first processor in response to sending the first portion of transmission control protocol data;
determining whether the response from the first processor indicates that the first processor will comply with the authentication session; and
if the first processor will not comply with the authentication session then performing a substep of
restricting access of the first processor.
11. The method of claim 1, wherein the first processor includes a client process and wherein the second processor includes a server process.
12. The method of claim 1, wherein the second processor intercepts a transmission from the first processor.
13. A method for initiating an authentication session between first and second processes, the method comprising
encapsulating an authentication session request within a TCP session request.
14. The method of claim 13, wherein the step of encapsulating includes a substep of
including an authentication session request in a transfer of data indicating a TCP session handshake.
15. The method of claim 14, wherein the authentication session request includes setting a value in a TCP segment header.

16. The method of claim 15, wherein a first value is set for data from the second process to the first process, and where a second value is set for data from the first process to the second process.

17. The method of claim 14, wherein the authentication session request includes creating a TCP option.

18. The method of claim 17, wherein the TCP option includes an octet.

19. The method of claim 13, wherein an authentication session entered as a result of the authentication session request includes an Extensible Authentication Protocol (EAP) session.

20. An apparatus for providing authentication in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication over a network, the apparatus comprising
an authentication session requestor for creating an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session; and
a transmitter for sending the first portion of transmission control protocol data to the first processor.

21. The apparatus of claim 20, wherein the transmission control protocol includes standard TCP.

22. The apparatus of claim 21, wherein the first portion of transmission control protocol data includes a request to establish a standard TCP connection.

23. The apparatus of claim 22 wherein the first portion of transmission protocol data includes a segment used in a three-way handshake.

24. The apparatus of claim 21, wherein the authentication session request includes setting a value in a TCP segment header.

25. The apparatus of claim 24, wherein a first value is set for data from the second processor to the first processor, and where a second value is set for data from the first processor to the second processor.

26. The apparatus of claim 21, wherein the authentication session request includes creating a TCP option.

27. The apparatus of claim 26, wherein the option includes an octet.

28. The apparatus of claim 20, wherein the authentication session includes an Extensible Authentication Protocol (EAP) session.

29. A computer-readable medium including instructions for providing authentication in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication over a network, the computer-readable medium comprising

one or more instructions for creating an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session; and

one or more instructions for sending the first portion of transmission control protocol data to the first processor.

30. An apparatus for providing authentication in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication over a network, the apparatus comprising

means for creating an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session; and

means for sending the first portion of transmission control protocol data to the first processor.

31. A method for initiating an authentication session in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication with a second processor over a network, the method executing in the first processor, the method comprising

sending a request to establish a transmission session;

receiving an authentication session request during a negotiation of establishment of the transmission session; and

conducting authentication session communications.

32. The method of claim 31, wherein the step of sending a request includes a substep of

sending a standard transmission control protocol (TCP) request.

33. The method of claim 31, wherein the step of receiving an authentication session request includes a substep of

receiving the authentication session request in a first portion of transmission control protocol data.

34. The method of claim 32, wherein a first portion of transmission control protocol data includes a request to establish a standard TCP connection.

35. The method of claim 34 wherein the first portion of transmission protocol data includes a segment used in a three-way handshake.

36. The method of claim 34, wherein the authentication session request includes setting a value in a TCP segment header.

37. The method of claim 36, wherein a first value is set for data from the second processor to the first processor, and wherein a second value is set for data from the first processor to the second processor.

38. An apparatus for initiating an authentication session in a connection establishment process of a transmission control protocol, the apparatus comprising
one or more processors;
a network interface;
a computer-readable medium on which is stored instructions for causing the one or more processors to perform a method comprising
sending a request to establish a transmission session;
receiving an authentication session request during a negotiation of establishment of the transmission session; and
conducting authentication session communications.

39. The apparatus of claim 38, wherein standard transmission control protocol (TCP) requests are issued.

40. The apparatus of claim 39 wherein a first portion of a standard transmission control protocol request includes a segment used in a three-way handshake.

41. The apparatus of claim 39, wherein an authentication session request includes setting a value in a TCP segment header.

42. The apparatus of claim 39, wherein a first value is set for a first type of communication session and wherein a second value is set for a second type of communication session.

43. A computer-readable medium including instructions for initiating an authentication session in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication with a second processor over a network, the instructions executed by the first processor, the computer-readable medium comprising

- one or more instructions for sending a request to establish a transmission session;

- one or more instructions for receiving an authentication session request during a negotiation of establishment of the transmission session; and

- one or more instructions for conducting authentication session communications.

44. An apparatus for initiating an authentication session in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication with a second processor over a network, the apparatus comprising

- means for sending a request to establish a transmission session;

- means for receiving an authentication session request during a negotiation of establishment of the transmission session; and

- means for conducting authentication session communications.

45. A method for initiating an authentication session in a connection establishment process of a transmission control protocol between first and second processors communicating via a network, the method comprising

- requesting, with the first processor, to establish a transmission session;
- creating, with the second processor, an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session;
- sending the first portion of transmission control protocol data from the second processor to the first processor;
- receiving the first portion of transmission control protocol data at the first processor; and
- conducting authentication session communications.

46. The method of claim 45, wherein the step of sending a request includes a substep of

- sending a standard transmission control protocol (TCP) request.

47. The method of claim 46, wherein the first portion of transmission control protocol data includes a request to establish a standard TCP connection.

48. The method of claim 47 wherein the first portion of transmission protocol data includes a segment used in a three-way handshake.

49. The method of claim 47, wherein the authentication session request includes setting a value in a TCP segment header.

50. The method of claim 45, wherein a first value is set in the first portion of transmission control protocol data for data sent from the second processor to the first processor, and wherein a second value is set in the first portion of transmission control protocol data for data from the first processor to the second processor.

51. An apparatus for initiating an authentication session in a connection establishment process of a transmission control protocol, the apparatus comprising

- a client processor;
- a server processor;
- a computer-readable medium on which is stored instructions for causing the one or more processors to perform a method comprising
 - requesting, with the client processor, to establish a transmission session;
 - creating, with the server processor, an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session;
 - sending the first portion of transmission control protocol data from the server processor to the client processor;
 - receiving the first portion of transmission control protocol data at the client processor; and
 - conducting authentication session communications.

52. The apparatus of claim 51, wherein standard transmission control protocol (TCP) requests are issued.

53. The apparatus of claim 51 wherein the first portion of a standard transmission control protocol request includes a segment used in a three-way handshake.

54. The method of claim 51, wherein an authentication session request includes setting a value in a TCP segment header.

55. The method of claim 51, wherein a first value is set for a first type of communication session and wherein a second value is set for a second type of communication session.

56. A computer-readable medium including instructions for initiating an authentication session in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication with a second processor over a network, the instructions executed by the first processor, the computer-readable medium comprising

one or more instructions for requesting, with the first processor, to establish a transmission session;

one or more instructions for creating, with the second processor, an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session;

one or more instructions for sending the first portion of transmission control protocol data from the second processor to the first processor;

one or more instructions for receiving the first portion of transmission control protocol data at the first processor; and

one or more instructions for conducting authentication session communications.

57. An apparatus for initiating an authentication session in a connection establishment process of a transmission control protocol, wherein a first processor attempts to establish a communication with a second processor over a network, the apparatus comprising

means for requesting, with the first processor, to establish a transmission session;

means for creating, with the second processor, an authentication session request in a first portion of transmission control protocol data, wherein the authentication session request indicates a request to start an authentication session;

means for sending the first portion of transmission control protocol data from the second processor to the first processor;

means for receiving the first portion of transmission control protocol data at the first processor; and

means for conducting authentication session communications.